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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,382	02/12/2007	William A. Nicol	2000-1220-PCT8-US	1745

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EXAMINER

LUK, EMMANUEL S

ART UNIT	PAPER NUMBER
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1791

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/580,382	Applicant(s) NICOL, WILLIAM A.	
	Examiner Emmanuel S. Luk	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 19 is/are rejected.
- 7) ☒ Claim(s) 16-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-7, 9-14, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kachnic (6592355) in view of Hillman (5470218).

Kachnic teaches an injection molding machine 10 with the mold halves 14, 16, sensor 330 (electronic camera) that acquires the images in electronic format (Col. 6, lines 17-20) are compared by a computer or microprocessor (Col. 8, line 5), the analyzing means 340 compares it with memory, and sends signals of when to open and close the mold via machine controller 72. Kachnic further teaches that the first image is immediately acquired while the mold is opening, in lieu of waiting for a signal from the machine controller that the mold has completely opened. The image is analyzed to ensure that the part is present on the moving side of the mold half, the analyzing means

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sends a signal to the machine controller to this affect. A second image is acquired and analyzed to determine the absence of the part in the mold half after operation of the ejector rods (Col. 8, lines 54-66). Kachnic also teaches that use of an infrared camera, near infrared camera, or infrared sensor (Col. 8, lines 39-41).

Hillman teaches analyzing means for operating the machine according to a set of processing parameters, each processing parameter having a respective operating range, the processor parameters being listed with the value of time, the machine includes temperature sensors 56 such as thermocouples and also an ejection station 46. Hillman teaches that if the barrel temperatures are too low, the controller will not allow operation of the injection screw 32. One skilled in the art recognizes that the process controller of Hillman can be used to determine the temperatures and if the temperatures are in the desired ranges, a signal can be sent to operate an element.

It would have been obvious for one of ordinary skill in the art to modify the analyzing means of Kachnic with the analyzing means taught by Hillman for finding the desired operating ranges.

In regards to claims 4-5, these are method limitations detecting the temperature. There are no structural limitations provided by the claim for an apparatus claim.

In regards to claim 6, the means for analyzing is a host computer as provided as an example by the specification of the present application. The prior art reference has an equivalent being a computer or microprocessor.

In regards to claim 7, Kachnic teaches the machine is related to an injection molding machine.

In regards to claim 9, this determination is an intended use of the apparatus.

In regards to claim 10, the means for communicating the data analysis is taught by Kachnic.

In regards to claim 11, integrating the analyzing means with the sensor is two combine two separate elements and one of ordinary skill in the art would recognize that it is possible to integrate two separate elements that are already connected.

In regards claim 12, the sensor further having communicating means is obvious under Kachnic since the sensor needs to communicate with the computer.

In regards claim 14, Kachnic inherently teaches the operation of the sensor upon the opening of the mold.

4. Claims 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kachnic (5928578) in view of Williamson (5514309). as applied to claims 2 and 3above, and further in view of Triplett (6000831).

Kachnic in view of Williamson fail to teach the wireless thermograhic sensor or transferring the data via spread-spectrum radio frequency, or infrared signal communication platform.

Triplett teaches the use of a wireless transmission of data in an injection mold, here the sensor provides information from the mold, and the sensor transmits the data via wireless transmitter (Col. 4, lines 33-36) from the sensor to the controller. Here, one skilled in the art recognizes the various wireless transmission available including radio

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frequency which have been in use in industry for decades and the infrared signal which have been used to communicate with devices including calculators since the late 90's.

It would have been obvious for one of ordinary skill in the art to modify Kachnic in view of Williamson with the wireless devices and the method of transmitting the input wirelessly as taught by Triplett so that cumbersome wired connections can be eliminated (Col. 1, lines 6-11).

5. Claims 1 and 2 have invoked means plus function pursuant to 35 U.S.C. 112, sixth paragraph. Where means plus function language is used to define the characteristics of a machine or manufacture invention, claim limitations must be interpreted to read on only the structures or materials disclosed in the specification and "equivalents thereof." (Two en banc decisions of the Federal Circuit have made clear that the Office is to interpret means plus function language according to 35 U.S.C. 112, sixth paragraph. In the first, *In re Donaldson*, 16 F.3d 1189, 1193, 29 USPQ2d 1845, 1848 (Fed. Cir. 1994), the court held:

The plain and unambiguous meaning of paragraph six is that one construing means-plus-function language in a claim must look to the specification and interpret that language in light of the corresponding structure, material, or acts described therein, and equivalents thereof, to the extent that the specification provides such disclosure.

Here, the claim invoked means plus function for 'means for opening and closing the mold' and 'means for analyzing the assessment data'; and in claim 2, means plus

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function have been invoked for 'means for analyzing said data' and 'means for communicating said data'.

Allowable Subject Matter

6. Claims 16-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record, such as Kachnic, fail to teach the analyzing of the temperature data wherein it is an empirical measurement of the difference between the part surface temperature and the part center temperature in view of a glass transition temperature in order to determine an optimum temperature with an optimized cooling time, the controller then sending a signal a controller that that is responsive to the signal from the analyzer.

Response to Arguments

8. Applicant's arguments with respect to claims 1-3 have been considered but are moot in view of the new ground(s) of rejection. A new rejection has been made in response to the newly amended claims. The new Kachnic reference teaches the use of the sensors after the mold has just opened and to again analyze at a second time. The Hillman reference teaches the use of process controls for the operating parameters and graphed over time and thus the combination of the references teaches the claimed

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invention. In regards to claims 16-18, the claims provide further analysis in finding the optimum temperature and time and the prior art of record fail to teach this additional feature.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel S. Luk whose telephone number is (571)272-1134. The examiner can normally be reached on Monday-Fridays from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra N. Gupta can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EL

/Joseph S. Del Sole/
Supervisory Patent Examiner, Art Unit 1791